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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,995	12/20/2005	Sigurd Buchholz	CH8368/LeA 35,790	9453

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Law and Intellectual Property Department
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EXAMINER	
KOSACK, JOSEPH R	

ART UNIT	PAPER NUMBER
1626	

MAIL DATE	DELIVERY MODE
01/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,995	BUCHHOLZ ET AL.	
	Examiner	Art Unit	
	Joseph Kosack	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-10 and 12 are pending in the instant application.

Amendments

The amendment filed on October 22, 2007 has been acknowledged and has been entered into the application file.

Previous Claim Rejections - 35 USC § 112

Claims 1-10 and 12 were previously rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicant's amendments have removed the unsupported subject matter and the rejection is withdrawn.

Previous Claim Rejections - 35 USC § 103

Claims 1-12 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Rauchschwalbe et al. (US PGPUB 2001/0034453) in view of Merz et al. (*Journal fur praktische Chemie, 1996*, 672-674).

Applicant has traversed the rejection on the grounds that Merz et al. does not suggest specifically to eliminate the solvent in Rauchschwalbe et al. and that the instant application contains unexpected results.

The Examiner respectfully disagrees. Merz et al. teaches that decarboxylation can be done without the presence of solvents. In fact, the reaction mixture of Merz et al. was heated to more than 250 °C, over 100 °C higher than Rauchschwalbe et al. which teaches the copper catalyzed process. Therefore, the concerns of Rauchschwalbe et al. had of local overheating are unfounded as the reaction has

already been accomplished by Merz et al. with no solvents and at much higher temperatures. As to the unexpected results, they are not considered to be unexpected because the compounds are slightly different (3,4-dimethoxy vs 3,4-ethylenedioxy) and are therefore not commensurate in scope. Therefore, the rejection is maintained except for cancelled claim 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*; 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-10 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Rauchschwalbe et al. (US PGPUB 2001/0034453) in view of Merz et al. (*Journal fur praktische Chemie, 1996*, 672-674).

The instant application is drawn to a process for decarboxylating 3,4-ethylenedioxythiphene-2,5-dicarboxylic acid thermally with the aid of copper carbonate as a catalyst. The process forgoes any solvent and is set up to proceed in a continuous process.

Determination of the scope and content of the prior art (MPEP §2141.01)

Rauchschwalbe et al. teach a process for decarboxylating 3,4-dimethoxy-2,5-dicarboxylic acid thiophene by heating around 140° C in a sulfolane solvent in the presence of copper carbonate. See Example 4, page 3, paragraphs 47 and 48.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

Rauchschwalbe et al. do not teach the process without a solvent, the 3,4-ethylenedioxy instead of the 3,4-dimethoxy thiophene, and the details of the continuous process.

Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)

Merz et al. teach the process for decarboxylating without the use of a solvent. See page 673, column 2. Additionally, 3,4-dimethoxythiophene and 3,4-ethylenedioxythiophene would be obvious variants for the decarboxylation reaction because they are not modified in the reaction and therefore do not play a role in the

reaction. A reaction that would work for one would be expected to work for the other. Finally, the courts have consistently ruled that the use of a continuous method vs. a batch process is nonobvious. See In re Giolito, 188 USPQ 645. Therefore, the exact details of the mechanics to carry out the continuous version of a batch process would be obvious to those of skill in the art of industrial scale processes with a reasonable expectation of success. The motivation to combine the references is that performing a reaction without a solvent is cost-effective and leads to a less toxic or more green process.

Thus, the claimed invention as a whole was *prima facie* obviousness over the combined teachings of the prior art.

Conclusion

Claims 1-10 and 12 are rejected.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Kosack whose telephone number is (571)-272-5575. The examiner can normally be reached on M-F 6:30 A.M. until 4:00 P.M. The examiner has every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (571)-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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